

Higher National Unit Specification

General information for centres

Unit title: Resistance Training for Sport

Unit code: DD36 34

Unit purpose: This Unit aims to ensure that candidates have an awareness of the various forms of resistance training and their role in maximising sports performance. It also aims to provide candidates with the knowledge which will allow them to design effective programmes and to coach the key exercises effectively.

On completion of this Unit, the candidate will be able to:

1. Demonstrate an understanding of the role of strength and power training in sports performance.
2. Design a sport specific periodized resistance-training programme.
3. Coach resistance training movements in a safe and effective manner.

Credit value: 1 HN Credit at SCQF level 7: (8 SCOTCAT credit points at SCQF level 7*)

**SCOTCAT points are used to allocate credit to qualifications in the Scottish Credit and Qualifications Framework (SCQF). Each qualification in the Framework is allocated a number of SCOTCAT points at an SCQF level. There are 12 SCQF levels, ranging from Access 1 to doctorates.*

Recommended prior knowledge and skills: Candidates should possess good written and oral communication skills. Possessing an appropriate NQ unit from the Exercise and Fitness series would be an advantage. Other knowledge skills or experience relevant to the Unit would also be beneficial. Ultimately, entry is at the discretion of the centre.

Core skills There may be opportunities to gather evidence towards core skills in this Unit, although there is no automatic certification of core skills or core skills components in this Unit.

Context for delivery: If this Unit is delivered as part of a group award, it is recommended that it should be taught and assessed within the subject area of the group award to which it contributes. This unit is included in the framework for HNC/D Sports Coaching with Development of Sport.

Assessment: Candidates should demonstrate a clear grasp of the theoretical knowledge of the unit. A closed book test of restricted response answers could be used for Outcome 1. Outcome 2 should be assessed by means of a project where the candidate is required to design a periodized resistance-training programme for an athlete in a given sport. Outcome 3

should be assessed by means of a practical assessment, an oral assessment and a written evaluation.

Higher National Unit specification: statement of standards

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The sections of the Unit stating the Outcomes, knowledge and/or skills, and evidence requirements are mandatory.

Where evidence for Outcomes is assessed on a sample basis, the whole of the content listed in the knowledge and/or skills section must be taught and available for assessment. Candidates should not know in advance the items on which they will be assessed and different items should be sampled on each assessment occasion.

Outcome 1

Demonstrate an understanding of the role of strength and power training in sports performance.

Knowledge and/or skills

- Definitions of strength & power and their importance in sports performance.
- Common misconceptions about resistance training.
- Benefits of resistance training.
- Physiological adaptations to resistance training.

Evidence requirements

To achieve this outcome each candidate will have to provide written or oral evidence to demonstrate their understanding of all aspects of the knowledge and skills section. The candidate will be required to describe the key issues relating to achievement.

The assessment instrument will be a restricted response question paper of 4 questions (One for each of the knowledge and skills). All parts of the knowledge and skill section must be satisfactorily addressed.

Assessment guidelines

Written or oral evidence that the candidate can describe the role of strength and power training in sports performance.

Higher National Unit specification: statement of standards (cont)

Unit title: Resistance Training for Sport

Outcome 2

Design a sport specific periodized resistance-training programme.

Knowledge and/or skills

- Training Needs Analysis.
- Acute Programme Variables.
- Application of principles in the design of a periodized resistance training programme for a specified performer.

Evidence requirements

To achieve this outcome each candidate will be required to produce written evidence to demonstrate their understanding of all aspects of the knowledge and / or skills section. The assessment will take the form of a project in which the candidate will design a periodized resistance-training programme for an individual in a specific sport. This should be 1200 words in length and must include a rationale for the training programme.

Assessment guidelines

Written evidence the candidate can apply principles of training programme design in producing a periodized resistance-training programme.

Outcome 3

Coach resistance-training movements in a safe and effective manner.

Knowledge and/or skills

- General safety considerations in the weights room.
- Effective coaching of strength training exercises.
- Effective coaching of power training exercises.
- Effective coaching of core strength/stability exercises.

Evidence requirements

To achieve this outcome each candidate will be required to practically and orally demonstrate their understanding of all aspects of the knowledge and / or skills section. An observation checklist along with a written evaluation will be the instruments of assessment. These observations must cover sessions of sufficient length to ensure that all of the knowledge and skill section are addressed to a satisfactory level.

Higher National Unit specification: statement of standards (cont)

Unit title: Resistance Training for Sport

Assessment guidelines

Practical evidence that the candidate can teach resistance training movements in a safe and effective manner. Oral evidence that the candidate is aware of the key factors relating to safety in the weights room.

Administrative Information

Unit code: DD36 34

Unit title: Resistance Training for Sport

Superclass category: MD

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Higher National Unit specification: support notes

Unit title: Resistance Training for Sport

This part of the Unit specification is offered as guidance. The support notes are not mandatory.

While the exact time allocated to this Unit is at the discretion of the centre, the notional design length is 40 hours.

Guidance on the content and context for this Unit

A key element in this unit is the application of principles and knowledge from scientific research to resistance training. The books in the bibliography will be invaluable in this regard. The application of this scientific knowledge should be reinforced during practical sessions.

Outcome 1:

Definitions: Strength; Power; importance in sporting actions; examples from a range of sports.

Common Fears/Misconceptions: Resistance training is unsafe; is unsuitable for children; increases injury risk; decreases flexibility; decreases speed and flexibility; results in excessive muscle growth.

Benefits: Decreased injury risk; improved strength; improved explosive power & improved running speed; improvements in body composition.

Physiological Adaptations: Neural Adaptations (Improved recruitment; improved coordination; decreased autogenic inhibition) Musculoskeletal Adaptations (Muscle hypertrophy; increased bone mineral density; stronger tendons & connective tissues).

Outcome 2:

Training Needs Analysis: Gathering the necessary information to design a resistance-training programme. (Movement patterns in sport; main muscle groups used in sport; Strength Training Status of athlete; key sites for injury prevention; Joint angles and range of motion; muscle balance considerations; movement speed).

Acute Programme Variables: Choosing the actual content of a training programme (Periodization concerns e.g. In season/Off Season; time of workouts; frequency of workouts; choice of exercises; exercise order; number of sets; number of repetitions; rest time between sets).

Outcome 3:

General safety considerations: Storage and maintenance of equipment; access; facility layout; breathing; spotting requirements; importance of correct technique.

Effective Coaching: Accurate demonstrations; coaching points; observation and analysis; feedback; communication skills.

Higher National Unit specification: support notes (cont)

Unit title: Resistance Training for Sport

Strength Training exercises: Squat; Single leg squat; lunges; leg press; bench press; Incline bench press; deadlift; stiff-legged deadlift; dumbbell row; lat pulldown; chin ups.

Power Training exercises: Olympic Lifts and derivatives (e.g. Snatch; clean & jerk; power clean & snatch; Shrugs; Push jerk; Split Jerk); Plyometric/Explosive Exercises (e.g. Squat jump; ¼ squat jump; explosive step ups; bounds; medicine ball throws).

Core Strength/Stability exercises: Abdominal curls and variations; prone & lateral bridge; back extensions/hyperextensions; Swiss ball exercises.

Guidance on the delivery and assessment of this Unit

This unit would be best delivered during the first year of the HND programme, and should ideally be sequenced after candidates have completed both of the following units: Principles of Fitness Training; Anatomy, Physiology and Energy Systems.

Open learning

Open learning implies that, while candidates study out with the centres using materials provided, it would be necessary to attend the centre for assessment purposes. For further information of Open and Distance Learning, please refer to the SQA publication, Assessment and Quality Assurance of Open and Distance Learning (SQA 2000).

Special needs

This Unit specification is intended to ensure that there are no artificial barriers to learning or assessment. Special needs of individual candidates should be taken into account when planning learning experiences, selecting assessment instruments or considering special alternative Outcomes for Units. For information on these, please refer to the SQA document *Guidance on Special Assessment Arrangements* (SQA, 2001).

General information for candidates

Unit title: Resistance Training for Sport

The role of resistance training in sport is surrounded by many myths. However, research into resistance training has consistently shown that appropriately designed training programmes can improve performance in a variety of sports by increasing strength; decreasing injury risk; improving endurance and, most importantly by improving explosive power. However, resistance-training programmes must be well designed and safely implemented if these benefits are to be gained.

In this Unit you will investigate the role of resistance training, and examine its potential to improve performance in a variety of sports. You will also investigate the principles of resistance training programme design, which will allow you to design a sport specific resistance training program. Finally, you will investigate effective coaching methods which will enable you to coach resistance training exercises in a safe and effective manner.

Assessment for this unit will take the form of a restricted response assessment; an extended response project where you will design a resistance training programme and describe why you have designed it in the way you have; and a practical assessment where you will be required to coach a strength training exercise; power training exercise and a core strength exercise, chosen at random from a list of several possible alternatives.